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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/538,173	08/07/2006	Eran Fine	30063	1754
67801 7590 02/10/2009 MARTIN D. MOYNIHAN d/b/a PRTSI, INC. P.O. BOX 16446 ARLINGTON, VA 22215				
EXAMINER				
ROJAS, OMAR R				
ART UNIT		PAPER NUMBER		
2874				
MAIL DATE		DELIVERY MODE		
02/10/2009		PAPER		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/538,173

Applicant(s)

FINE, ERAN

Examiner

OMAR ROJAS

Art Unit

2874

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 November 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 90-96, 101, 103-111, 114-120, 123 and 127-130 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 90-96, 101, 103-108, 123, 127, 128 and 130 is/are rejected.
- 7) ☒ Claim(s) 109-111, 114-120 and 129 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 07/28/2008 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-946)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(c), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(c) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 11/25/2008 has been entered.

Response to Amendment

2. With regards to the amendment filed on 11/25/2008, all the requested changes to the claims have been entered. Claim(s) 90-96, 101, 103-111, and 114-120, 123, and 127-130 are pending.

Response to Arguments

3. Applicant's arguments with respect to claims 90-96, 101, 103-108, 123, 127, 128, and 130 have been considered but are moot in view of the new ground(s) of rejection.

Drawings

4. The drawings are objected to because Figures 7a, 7b, 8a, 8b, and 9 contain hand-written reference numerals and portions of the figures appear to be hand-drawn. The drawings are acceptable for examination purposes only. See 37 CFR 1.84(l). Appropriate correction is required.

Claim Objections

5. Claim 105 objected to because of the following informalities: In claim 105, the limitation "said propagation angle" lacks a clear antecedent basis because no propagation angle is previously mentioned by claim 105 or any of its base claims. Appropriate correction is required.
6. For examination purposes, it has been assumed that claim 105 is meant to be dependent upon claim 104 since claim 104 recites a propagation angle.

Claim Rejections - 35 USC § 103

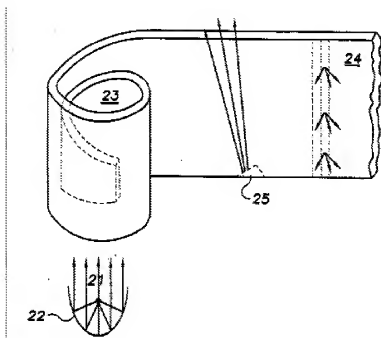
7. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

8. Claims 90-96, 101, 103-105, 107, 108, 123, 127, 128, and 130 are rejected under 35 U.S.C. 103(a) as being unpatentable over Patent No. 5,675,678 to Neuberger et al. ("Neuberger") in view of Patent No. US 6,714,711 B1 to Lieberman et al. ("Lieberman").

In re claims 90, 94, 95, and 123, Neuberger discloses an optical waveguide (see **Figure 2**) capable of propagating and emitting light comprising:

a transparent flexible multilayered polymeric material **24** shaped as a sheet having surface grooves **25** such that a portion of the light is scattered by said grooves **25** and emitted through a side surface of said light guide to provide a light gradient emanating from said side surface;

wherein only one of the side surfaces of the waveguide **24** can be configured to emit light while the other surface can be made opaque. See column 1, lines 5-35 of Neuberger for further details. A partial reproduction of Figure 2 of Neuberger is reproduced below.



Thus, Neuberger only differs from claims 90, 94, 95, and 123, in that he does not teach a plurality of particles distributed in his waveguide material **24** in an increasing concentration. Liebermann, on the other hand, discloses (see Fig. 6) a plurality of particles **28** disposed in a waveguide material **25** in an increasing concentration and wherein only one side surface **43** of the waveguide emits light **41** while the other side surface remains opaque (due to reflective cladding **26**). See Liebermann at column 5, lines 5-21 for further details. The prior art references teach all of the claimed elements. The difference between the prior art and the claimed invention is using particles distributed within the waveguide material to perform side illumination rather than surface grooves. One of ordinary skill in the art would have recognized that scattering particles and surface grooves are known equivalents for providing side illumination within the illumination art. It would have been obvious to one of ordinary skill in the art to substitute one known element (surface grooves) for another known equivalent element

(scattering particles) resulting in the predictable result of performing side illumination from an optical waveguide. *KSR v. Teleflex*, 127 S. Ct. 1727, 82 U.S.P.Q.2d 1385 (2007).

In re claims 91-93, the PMMA and/or polycarbonate material disclosed by Neuberger at column 3, lines 15-17 inherently possesses the same claimed elasticity and tensile stress recited by the claims because Neuberger's waveguide **24** appears to be just as flexible and strong as applicant's claimed waveguide.

In re claim 96, the PMMA and/or polycarbonate material disclosed by Neuberger at column 3, lines 15-17 could be considered rubbery in a literal sense since the dictionary meaning of term "rubbery" is broadly defined as "like rubber".

In re claim 101, the PMMA and/or polycarbonate material disclosed by Neuberger at column 3, lines 15-17 is inherently dielectric and has the same recited reflection coefficient because it appears to have the same physical structure as the claimed flexible material.

In re claims 103 and 107, the cladding(s) and core disclosed by Neuberger, see col. 3, lines 12-15, anticipate the claimed first, second, and third layers.

In re claims 104 and 105, since the layers of Neuberger's waveguide **24** must inherently have some selected thickness, Neuberger's waveguide **24** is considered inherently capable of performing the specified propagation angle(s) for propagating light.

In re claim 108, the amount of light emitted from Neuberger's waveguide **24** could be considered a predetermined pattern.

In re claims 127 and 128, the scattering particles disclosed by Liebermann are inherently capable of performing in the claimed manner because they scatter visible light wavelengths propagating within a waveguide core.

In re claim 130, the specified limitations are considered unpatentable for the same reasons mentioned with respect to claim 90.

9. Claim 106 is rejected under 35 U.S.C. 103(a) as being unpatentable over Neuberger in view of Lieberman as applied to claim 103 above, and further in view of Patent No. US 6,278,106 B1 to Muto et al. ("Muto"). The Muto patent was applied in a prior Office action.

In re claim 106, Neuberger in view of Lieberman only differs in that Neuberger teaches an optical core layer that comprises PMMA or polycarbonate instead of polyisoprene. Muto, on the other hand, teaches that polyisoprene can be used as an optical waveguide core. *See* Muto at column 6, lines 31-52. The prior art references teach all of the claimed elements. The difference between Neuberger in view of Lieberman and the claimed invention is using PMMA or polycarbonate for the core layer rather than polyisoprene. One of ordinary skill in the art would have recognized that PMMA, polycarbonate, and polyisoprene are known equivalents for providing waveguide cores within the optical waveguide art. It would have been obvious to one

of ordinary skill in the art to substitute one known element (PMMA or polycarbonate) for another known equivalent element (polyisoprene) resulting in the predictable result of forming an optical waveguide core. *KSR v. Teleflex*. Therefore, it would have been obvious to one of ordinary skill at the time of the claimed invention to obtain the invention specified by claim 106 in view of Neuberger combined with Lieberman, and further in view of Muto.

Allowable Subject Matter

10. Claims 109-111, 114-120, and 129 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Omar Rojas whose telephone number is (571) 272-2357. The examiner can normally be reached on Monday-Friday (9:00PM-5:00PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Uyen-Chau Le, can be reached on (571) 272-2397. The official facsimile number for regular and After Final communications is (571) 273-8300. The examiner's RightFAX number is (571) 273-2357.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR

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system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Omar Rojas/

Patent Examiner, Art Unit 2874

or

February 10, 2009